

REMARKS

Claims 1-22 were presented for examination. The Examiner rejected claims 1-13 under 25 U.S.C. §112, second paragraph. The Examiner rejected claims 14-20 under 35 U.S.C. §101. The Examiner rejected claims 1-5 and 8-22 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 7,203,941 to Demsey et al. (hereafter, "Demsey") in view of U.S. Patent No. 4,253,145 to Goldberg (hereafter, "Goldberg"). The Examiner rejected claims 6-7 under 35 U.S.C. 103(a) as being unpatentable over Demsey in view of Goldberg in further view of Schmidt, US 7,206,819 (hereafter, "Schmidt").

Claims 1 and 14 have been amended. No claims have been added or canceled. No new matter has been added. Claims 1 and 14 are independent.

Rejection of Claims Under 35 U.S.C. §112

The Examiner rejected claims 1-13 as indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention. The Examiner rejects claim 1 as having insufficient antecedent basis for the limitation "the context." Applicants have amended claim 1 to overcome this rejection.

The Examiner rejected claims 2-10 and 13 as having insufficient antecedent basis for the limitations referring to steps a and c. Applicants have amended claim 1 from which claims 2-10 and 13 depend, to overcome this rejection.

Rejection of Claims Under 35 U.S.C. §101

The Examiner rejected claims 14-20 as directed to non-statutory subject matter. The Examiner states that the claimed invention is a software program listing per se and does not define any structural and functional interrelationships between the computer program and other claimed elements of a computer. *See* Office Action, page 5. Applicants have amended claim 14 to overcome this rejection, clarifying that the apparatus is computer-implemented and provided by an operating system executing on a processor of a computer. *See* claim 14.

Rejection of Claims 1-5 and 8-22 Under 35 U.S.C. §103

Claims 1-5 and 8-22 were rejected in the Office Action under 35 U.S.C. § 103(a) as unpatentable over Demsey in view of Goldberg. To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest each and every claim limitation. The Applicants respectfully submit that neither Demsey or Goldberg, together or alone, teach each and every element of the claimed invention, and that there is no suggestion or motivation to combine Demsey or Goldberg. Independent claim 1, as proposed to be amended, recites, in relevant part, the following step:

receiving a request to access a native resource from a process executing within a context of an isolation environment including an application isolation layer and a user isolation layer, the request including a virtual name for the native resource.

Independent claim 14 recites similar limitations.

Demsey fails to teach or suggest executing a process within an isolation environment, as required by independent claims 1 and 14. As described in the specification, an isolation environment includes an application isolation layer and a user isolation layer, each of which may provide a virtualized instance of one or more native resources provided by an operating system. *See, e.g.*, Specification at 7-8, 12. Demsey focuses instead on a method for tracking which native resources were allocated to an application. In Demsey, a usage map indicates whether a particular application uses a particular resource (*See* Demsey at Figure 6) – but the map is not used in determining that a remap rule is associated with a virtual resource name. In the environment described by Demsey, the actual native resource is provided to the application or no resource at all, and to only one application at a time. *See* Demsey, col. 2, lines 29-32; col. 7, lines 17-43. Therefore, Demsey does not require the use of a virtual name for the native resource or remapping the virtual name to a literal name for the native resource.

The Examiner admits that Demsey fails to disclose “determining a rule action of remap is associated with the virtual name included in the received request,” as required by independent Claim 1. *See* Office action at 7. The Examiner relies on Goldberg to cure the deficiencies of

Demsey. However, Goldberg also fails to teach or suggest executing a process within an isolation environment, as required by independent claims 1 and 14.

Goldberg discloses a hardware virtualizer that utilizes two virtual machine maps to identify a physical resource requested by a process running on a virtual machine. *See* Goldberg, Abstract; col. 17, lines 38-49. However, in contrast to a physical resource provided by hardware, native resources provided by the operating system include, for example, a file system and a registry database. *See* Specification, page 1. As described in the specification, file systems provide mechanisms for an application program to open, create, read, copy, modify, and delete data files, and registry databases provide functionality such as storing information regarding hardware physically attached to the computer, how computer memory is set up, various items of application-specific data, and what application programs should be present when the operating system is started. *See* Specification, page 1-2. One of ordinary skill in the art would not consider hardware resource to be operating system native resources, or be motivated to use a hardware interface tool as taught by Goldberg to address application-level virtualization. Nor does Goldberg teach or suggest an isolation environment including an application isolation layer and a user isolation layer, each of which may provide a virtualized instance of one or more native resources provided by an operating system. Goldberg focuses exclusively on virtual machines providing access to hardware resources and fails to teach or suggest virtualization of native resources provided by an operating system.

Accordingly, Applicants respectfully submit that Demsey and Goldberg, alone or in combination, fail to teach or suggest each and every limitation of independent claims 1 and 14. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of independent claims 1 and 14, and of dependent claims 2-5, 7-13, and 15-22.

Rejection of Claims 6-7 Under 35 U.S.C. §103

Claims 6-7 were rejected under 35 U.S.C. §103(a) as unpatentable over Demsey in view of Goldberg and further in view of Schmidt. *See* Office Action, page 12. The arguments made above regarding the failure of Demsey and Goldberg to teach or suggest each and every element

of independent claims 1 and 14, from which claims 6-7 depend, apply with equal force here and are reiterated as if set forth in full.

Schmidt fails to teach or suggest executing a process within an isolation environment as recited in the pending claims because Schmidt lacks a user isolation layer, describing only a single layer isolating access to file systems and hardware resources. The focus in Schmidt is on providing a single user with an encapsulated form (referred to as a “compute capsule”) capable of being moved between computers or stored off-line, executing one or more processes and, for each of the processes, storing state information including privileges, configuration settings, working directories and files, assigned resources, open devices, installed software, and internal program state. *See* Schmidt, col. 4, lines 39-50. Compute capsules provide private views only of file systems and of hardware resource names. *See* Schmidt, col. 9, lines 1-3. Although a single user may own multiple capsules (*See* Schmidt, col. 6, lines 1-3), Schmidt fails to teach or suggest allowing multiple users to access a single capsule. Given Schmidt’s stated concerns regarding privacy, isolation, and security (*See* Schmidt, col. 5, lines 4-17), and the goal of providing each user with a personal view of the file system via at least one capsule (*See* Schmidt, col. 3, lines 42-52), Schmidt teaches away from allowing multiple users to access a single capsule. In contrast, the isolation environment includes both an application isolation layer and a user isolation layer, each of which may provide a virtualized instance of one or more native resources provided by an operating system. *See, e.g.,* Specification at 7-8, 12.

Accordingly, Applicants respectfully submit that Demsey, Goldberg and Schmidt, alone or in combination, fail to teach or suggest each and every limitation of independent claims 1 and 14. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of independent claims 1 and 14, and dependent claims 6-7.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Please charge any additional fees that may be required, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,
CHOATE, HALL & STEWART LLP

/John D. Lanza/
John D. Lanza
Registration No. 40,060

Patent Group
CHOATE, HALL & STEWART LLP
Two International Place
Boston, MA 02110
Tel: (617) 248-5000
Fax: (617) 502-5002
Date: May 14, 2008